

REMARKS:

Claims 1, 4-8, 11-15, 18-23, 25-29, 31-35, 37-41, and 43 are currently pending in the subject Application.

Claims 2, 3, 9, 10, 16, 17, 24, 30, 36, and 42 have been previously canceled without prejudice.

Claims 1, 4-8, 11-15, 18-23, 25-29, 31-35, 37-41, and 43 stand rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 6,047,290 to Kennedy et al. (hereinafter “*Kennedy*”) in view of U.S. Patent Publication No. 2002/0156663 to Weber et al. (hereinafter “*Weber*”).

Applicants respectfully submit that all of Applicants arguments are without *prejudice* or *disclaimer*. In addition, Applicants have merely discussed example distinctions from the cited prior art. Other distinctions may exist, and as such, Applicants reserve the right to discuss these additional distinctions in a future Response or on Appeal, if appropriate. Applicants further respectfully submit that by not responding to additional statements made by the Examiner, Applicants do not acquiesce to the Examiner’s additional statements. The example distinctions discussed by Applicants are considered sufficient to overcome the Examiner’s rejections. In addition, Applicants reserve the right to pursue broader claims in this Application or through a continuation patent application.

I. Weber is Invalid Prior Art Over the Subject Application

Applicants respectfully submit that the subject Application was filed on 4 December 2001 and claims the benefit under 35 U.S.C. § 119(e) of U.S. Provisional Application No. 60/281,144, filed 2 April 2001. *Weber*, which published on 24 October 2002, was not filed until 13 July 2001. Therefore, because the filing date of *Weber* is after the priority date of the subject Application, that is, because the priority date of the subject Application is *three months prior to the filing of Weber*, *Weber is invalid as prior art over the subject Application*.

It is noted however, that even though *Weber* claims priority to a provisional application filed 13 July 2000, much of the teaching relied upon by the Examiner in rejecting Claims 1, 4-8, 11-15,

18-23, 25-29, 31-35, 37-41, and 43 under 35 U.S.C. § 103(a) is not part of the provisional application filed 13 July 2000. The disclosure of the invention in the parent application (i.e., provisional Application) and in the later-filed application must be sufficient to comply with the requirements of the first paragraph of 35 U.S.C. 112. See *Transco Products, Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ2d 1077 (Fed. Cir. 1994). In particular the Examiner alleges:

Applicant merely alleges that Weber does not provide support in its provisional for 60/218640 without any facts or support. These arguments fail to arguments fail to comply with 37 CFR 1.111(b). A mere broad allegation that the Examiner's action is in error does not comply with the requirement of 37 CFR § 1.111 because it does not specifically points out the supposed errors in the examiner's action (i.e. what specific aspect of Weber is not supported by the Weber provisional). Examiner is not asking for Applicant to show that the provisional supports of the non-provisional of Weber (see page 18 of arguments) but rather specifically point out what aspect of the Weber non-provisional is not supported by the Weber provisional. Therefore, Applicant's allegation that Weber is not valid prior art is unpersuasive.

(24 March 2009 Final Office Action, page 3). In particular, the *Weber* provisional application *does not properly supports the subject matter relied upon by the Examiner to make the rejection in compliance with 35 U.S.C. 112, first paragraph* for at least the following portions of *Weber*:

- ... the user sets up a supply chain model, specifies conditions for optimization, optimizes the supply chain model, analyzes the optimal supply chain, and fine-tunes the supply chain model. [0015 of *Weber*]
- ... the user defies the optimization conditions. [0118 of *Weber*]
- ... the user specifies goals for the optimization of the supply chain [0120 of *Weber*]

(24 March 2009 Final Office Action, page 14). Therefore the *Weber* provisional application is invalid as prior art over the subject Application. If the Examiner intends to rely on the filing date of the *Weber* provisional application, then Applicants respectfully *request that a showing under MPEP 2136.03 be made that “the provisional application(s) properly supports the subject matter relied upon to make the rejection in compliance with 35 U.S.C. 112, first paragraph.”*

In addition, as noted in the previous Response to Office Action filed 10 November 2008, the Examiner's allegations are not the test, that is, the test is not whether *Applicants provide facts or support for whether the provisional application contains proper support for the subject matter that the Examiner is relying on.*

Applicants respectfully *request the Examiner to cite a specific rule in 37 C.F.R. or in the MPEP that states that Applicants provide facts or support for whether the provisional application contains proper support for the subject matter that the Examiner is relying on.* Applicants simply do not understand, that if there is actual support in the provisional application to *Weber*, then why is the Examiner unable to properly provide a proper showing that *the provisional application(s) properly supports the subject matter relied upon to make the rejection in compliance with 35 U.S.C. 112, first paragraph.* The Examiner may call the undersigned, Steven J. Laureanti, at (480) 830-2700 if the Examiner believes it would be easier to discuss the source of confusion over the telephone.

Accordingly, if the Examiner continues to cite *Weber* as prior art, which *Weber* is not valid prior art, over the subject Application, *Applicants respectfully request that the Examiner produce a showing under MPEP 2136.03 that "the provisional application(s) properly supports the subject matter relied upon to make the rejection in compliance with 35 U.S.C. 112, first paragraph."*

Applicants respectfully submit that *Weber* is not valid prior art over the subject Application. Thus, Claims 1, 4-8, 11-15, 18-23, 25-29, 31-35, 37-41, and 43 are patentable over the cited reference, (i.e., *Kennedy*) because, as discussed below, the Examiner acknowledges that *Kennedy* fails to disclose various limitations recited in Applicants Claims.

II. Rejection Under 35 U.S.C. § 103(a) over Kennedy in view of Weber

Claims 1, 4-8, 11-15, 18-23, 25-29, 31-35, 37-41, and 43 stand rejected under 35 U.S.C. § 103(a) over *Kennedy* in view of *Weber*.

Applicants respectfully submit that *Weber* is invalid as prior art, and as such is not properly citable over the subject application. Notwithstanding this, Applicants further respectfully submit

that *Kennedy* and *Weber*, whether taken individually or in combination fail to disclose each and every element of Claims 1, 4-8, 11-15, 18-23, 25-29, 31-35, 37-41, and 43. Thus, Applicants respectfully traverse the Examiner's obviousness rejection of Claims 1, 4-8, 11-15, 18-23, 25-29, 31-35, 37-41, and 43 under 35 U.S.C. § 103(a) over *Kennedy* in view of *Weber*.

In rejecting Claim 8, the Examiner states the following:

Kennedy et al. teaches a system for generating a supply chain plan, comprising:

A database configured to store data describing a supply chain network comprising a plurality of buffers, each buffer configured to store a plurality of items and associated with a corresponding time variable, the supply chain network constrained by a constraint (See figure 1, column 1, lines 39-50, column 2, lines 24-35, 39-52, and 57-64, column 3, lines 20-45, column 6, lines 15-25, wherein data is accessed associated with a supply chain. Buffers are used to store items (i.e. resources, etc.) and associated time values (i.e. delivery time, timing), wherein the supply chain network is restricted by the amount of supply of items available);

(24 March 2009 Final Office Action, page 12). Applicants respectfully disagree with all of the above and respectfully direct the Examiner's attention to column 2, lines 38-56 of the specification of *Kennedy*, provided below, on which the Examiner relies:

Typically, the present invention can be implemented using a variety of software objects. As used herein, an "item" is a unit of raw material or assembled components that flows through the supply chain or manufacturing process. A "buffer" refers to a software object that models the management of the flow of interchangeable items in the supply chain or manufacturing plant. For the most part, material and inventory planning functionality is attached to buffers. A buffer can model all flow of a particular item, or a subset of that. In modeling a supply chain, a buffer typically only models the flow of items at a particular location (an SKU). Smaller subsets can be defined. For example, one buffer could model items at a location to be supplied to a very important customer, while another buffer could model that item supplied to other customer. One buffer could model items at a location built a certain way (e.g., by a U.S. Military-approved resource), while another buffer models the rest. In general, a buffer defines interchangeability, and the items managed by a buffer are interchangeable.

As shown above, Applicants respectfully submit that the portion of *Kennedy* on which the Examiner relies to disclose a "database configured to store data describing a supply chain network comprising a **plurality of buffers, each buffer being configured to store a plurality of**

items and associated with a corresponding time variable, the supply chain network constrained by a constraint” fails to teach at least this limitation of Claim 8. By contrast, the portion of *Kennedy* on which the Examiner relies discloses “*a software object that models the management of the flow of interchangeable items in the supply chain or manufacturing plant.*” Applicants respectfully point out the Examiner’s misinterpretation of a software object that models the management of the flow of interchangeable items in the supply chain or manufacturing plant as disclosed in *Kennedy* as equating to a “buffer being *configured to store a plurality of items and associated with a corresponding time variable*” as required by Claim 8. The buffer of Claim 8 goes beyond merely *modeling* the management of the flow of interchangeable items as disclosed in *Kennedy* and not only *actually stores* a plurality of items, *but also is associated with a corresponding time variable*. Applicant respectfully submits that *Kennedy* is silent, and therefore fails to disclose a buffer that is “*configured to store a plurality of items and associated with a corresponding time variable*.”

The Examiner further states:

However, *Kennedy et al.* does not expressly disclose that the algorithm used for the supply chain network is a generated linear programming problem, approximating this linear programming problem by discretizing the corresponding time variables of the buffers to yield a plurality of discretized corresponding time variables and by relaxing the constraint to yield a relaxed constraint, or calculating an optimized supply chain plan for the approximated linear programming problem.

Weber et al. using a linear programming program, approximating this problem using discretized variables to yield a plurality of discretized variables and by relaxing the constraint to yield a relaxed constraint (See paragraphs 18, 27, 33, 103-6, 118, 120-1, and 170, which discloses setting up a supply chain model that represents the physical supply chain network and all the upstream and downstream parties involved, as well as establishing the objective function and the hard and soft constraints for the problem. Linear Programming is applied to the model to determine a solution. The problem is further discretized to improve the solution). Weber et al. further discloses calculating an optimized solution supply plan for the approximated linear programming problem (See paragraphs 15-6, 118, 120-1, wherein an optimal solution is determined using the goal and the hard and soft (relaxed) constraints).

(24 March 2009 Final Office Action, page 14). Applicants respectfully disagree with the Examiner’s assertion that Weber discloses “*approximating] the linear programming problem by*

discretizing the corresponding time variables of the buffers to yield a plurality of discretized corresponding time variables and by relaxing the constraint to yield a relaxed constraint" as required by Claim 8.

Applicants respectfully direct the Examiner's attention to paragraph 103 of *Weber*, provided below, on which the Examiner relies:

As described above, soft constraints are constraints that may be violated in order to achieve a feasible and optimal plan in a supply chain model. If possible, the supply chain should be optimized without violating any of the soft constraints. In defining a soft constraint, the user assigns an associated penalty cost. The penalty cost adds an incremental cost per unit for violating the constraint. Even if the user specifies an extremely large penalty cost, the soft constraint is still different from a hard constraint in that the soft constraint may be violated in order to achieve a feasible, optimal solution to the supply chain model. For example, if a reusable resource has a maximum capacity constraint of 50 hours and a penalty cost of \$1,000/hour, then a supply chain configuration that uses 75 hours of a resource would have a total penalty of \$25,000 (75 hours-50 hours) * \$1000/hour.

Applicants respectfully submit that while it appears that the Examiner equates the "*soft constraint*" disclosed in *Weber* with the "*relaxed constraint*" of Claim 8, this equation is inaccurate. Rather, *Weber* discloses *two different types of constraints*: "*soft constraints*" that may be violated in order to achieve a feasible, optimal solution to the supply chain model and "*hard constraints*" that may not be violated. The soft constraints of *Weber* are defined differently and separately from hard constraints and do not represent "*relaxing the [hard] constraint to yield a relaxed constraint*," as required by Claim 8. Accordingly, Applicants respectfully submit that neither *Kennedy* nor *Weber*, taken individually or in combination, disclose each and every element of Applicants' Claim 8. Accordingly, Applicants respectfully request that the Examiner's rejection under 35 U.S.C. § 103(a) over *Kennedy* in view of *Weber* be withdrawn.

III. The Office Action Fails to Properly Establish a *Prima Facie* case of Obviousness over the Proposed *Kennedy-Weber* Combination According to the UPSTO Examination Guidelines

Applicants respectfully submit that the Office Action fails to properly establish a *prima facie* case of obviousness based on the proposed combination of *Kennedy* or *Weber*, either individually or in combination, and in particular, the Office Action fails to establish a *prima facie* case of

obviousness based on the “Examination Guidelines for Determining Obviousness Under 35 U.S.C. 103 in View of the Supreme Court Decision in *KSR International Co. v. Teleflex Inc.*” (the “Guidelines”).

As reiterated by the Supreme Court in *KSR International Co. v. Teleflex Inc. (KSR)*, the framework for the objective analysis for determining obviousness under 35 U.S.C. 103 is stated in *Graham v. John Deere Co.* (383 U.S. 1, 148 USPQ 459 (1966)). Obviousness is a question of law based on underlying factual inquiries. These factual inquiries enunciated by the Court are as follows:

- (1) Determining the scope and content of the prior art;
- (2) Ascertaining the differences between the claimed invention and the prior art; and
- (3) Resolving the level of ordinary skill in the pertinent art.

(Notice, 72 Fed. Reg. 57527 (Oct. 10, 2007)). Objective evidence relevant to the issue of obviousness must be evaluated by Office personnel. (383 U.S. 17–18, 148 USPQ 467 (1966)). As stated by the Supreme Court in *KSR*, “While the sequence of these questions might be reordered in any particular case, the [Graham] factors continue to define the inquiry that controls.” (*KSR*, 550 U.S. at __, 82 USPQ2d at 1391).

However, it is important to note that the Guidelines require that Office personnel “*ensure that the written record includes findings of fact* concerning the state of the art and the teachings of the references applied. (Notice, 72 Fed. Reg. 57527 (Oct. 10, 2007)). In addition, the Guidelines remind Office personnel that the “*factual findings made by Office personnel are the necessary underpinnings to establish obviousness.*” (*id.*). Further, “*Office personnel must provide an explanation to support an obviousness rejection* under 35 U.S.C. 103. (*id.*). In fact, “35 U.S.C. 132 requires that the applicant be notified of the reasons for the rejection of the claim so that he or she can decide how best to proceed” and “clearly setting forth findings of fact and the rationale(s) to support a rejection in an Office action leads to the prompt resolution of issues pertinent to patentability.” (*id.*).

With respect to the subject Application, the Office Action has not shown the *factual findings necessary to establish obviousness* or even *an explanation to support the obviousness*

rejection based on the proposed combination of *Kennedy and Weber*, either individually or in combination. The Office Action merely states that “it would have been obvious to one of ordinary skill in the art at the time of the invention to use the OR techniques [...] yielding a solution that allows user to make tactical and strategic decisions.” (24 March 2009 Final Office Action, pages 9-10). Applicants respectfully disagree and respectfully submits that the Examiner’s conclusory statement is not sufficient to establish the **factual findings necessary to establish obviousness** and is not a sufficient **explanation to support the obviousness rejection** based on the proposed combination of *Kennedy and Weber*. **Applicants respectfully request that the Examiner provide proper support for the obviousness rejection under 35 U.S.C. 103 as necessitated by the Guidelines, including the factual findings necessary to establish obviousness to “ensure that the written record includes findings of fact concerning the state of the art and the teachings of the references applied.** (Notice, 72 Fed. Reg. 57527 (Oct. 10, 2007)).

The Guidelines further provide guidance to Office personnel in “determining the scope and content of the prior art” such as, for example, “Office personnel must first obtain a thorough understanding of the invention disclosed and claimed in the application.” (Notice, 72 Fed. Reg. 57527 (Oct. 10, 2007)). The scope of the claimed invention must be clearly determined by giving the claims the “broadest reasonable interpretation consistent with the specification.” (See *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316, 75 USPQ2d 1321, 1329 (Fed. Cir. 2005) and MPEP § 2111.). In addition, the Guidelines state that any “**obviousness rejection should include**, either explicitly or implicitly in view of the prior art applied, **an indication of the level of ordinary skill.**” (Notice, 72 Fed. Reg. 57528 (Oct. 10, 2007)). With respect to the subject Application, the Office Action has not provided **an indication of the level of ordinary skill**. **Applicants respectfully request that the Examiner provide proper support for the obviousness rejection under 35 U.S.C. 103 as necessitated by the Guidelines, including an indication of the level of ordinary skill, relied upon by the Examiner.** (Notice, 72 Fed. Reg. 57527 (Oct. 10, 2007)).

The Guidelines still further provide that once the *Graham* factual inquiries are resolved, Office personnel must determine whether the claimed invention would have been obvious to one of ordinary skill in the art. (*Id.*). For example, the Guidelines state that **Office personnel must explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art.** (*Id.*). In addition, the Guidelines state that the proper analysis is

whether the claimed invention would have been obvious to one of ordinary skill in the art after consideration of all the facts. (*Id.* and See 35 U.S.C. 103(a)).

With respect to the subject Application, the Office Action has not expressly resolved any of the *Graham* factual inquiries to determine whether Applicants' invention would have been obvious to one of ordinary skill in the art. In addition, the Office Action fails to *explain why the difference(s) between the proposed combination of Kennedy, Weber and Applicants' claimed invention, would have been obvious to one of ordinary skill in the art.* The Office Action merely states that "in order to increase the efficiency of obtaining an optimal solution." (24 March 2009 Final Office Action, page 10). Applicants respectfully disagree and further respectfully requests clarification as to how this statement *explains why the difference(s) between the proposed combination of Kennedy and Weber, either individually or in combination, and Applicants' claimed invention would have been obvious to one of ordinary skill in the art.* Applicants further respectfully submit that the Examiner is using the subject Application as a template to formulate reconstructive hindsight, which constitutes impermissible use of hindsight under 35 U.S.C. § 103(a).

The Guidelines yet further state that the "key to supporting any rejection under 35 U.S.C. 103 is the *clear articulation of the reason(s) why the claimed invention would have been obvious.*" (Notice, 72 Fed. Reg. 57528 (Oct. 10, 2007)). In fact, the Supreme Court in *KSR* noted that "*the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit.*" (*id.*). The Court quoting *In re Kahn* (441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006)), stated that "[R]ejections on *obviousness cannot be sustained by mere conclusory statements;* instead, there *must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.*" (*KSR*, 550 U.S. at __, 82 USPQ2d at 1396). The Guidelines provide the following seven rationales:

- (A) Combining prior art elements according to known methods to yield predictable results;
- (B) Simple substitution of one known element for another to obtain predictable results;
- (C) Use of known technique to improve similar devices (methods, or products) in the same way;
- (D) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;

- (E) “Obvious to try”—choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;
- (F) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art;
- (G) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

Applicants respectfully submits that the *Office Action fails to provide any articulation, let alone, clear articulation of the reasons why Applicants' claimed invention would have been obvious*. For example, the *Examiner has not adequately supported the selection and combination of Kennedy and Weber to render obvious Applicants' claimed invention*. The Examiner's unsupported conclusory statements that “it would have been obvious to one of ordinary skill in the art at the time of the invention to use the OR techniques...yielding a solution that allows user to make tactical and strategic decisions” and “in order to increase the efficiency of obtaining an optimal solution” *does not adequately provide clear articulation of the reasons why Applicants' claimed invention would have been obvious*. (24 March 2009 Final Office Action, pages 9-10). In addition, the Examiner's unsupported conclusory statement fails to meet any of the Guidelines rationales to render obvious Applicants' claimed invention.

Thus, if the Examiner continues to maintain the obvious rejection based on the proposed combination of *Kennedy and Weber*, *Applicants respectfully request that the Examiner provide proper support for the obviousness rejection under 35 U.S.C. 103 as necessitated by the Guidelines, including a statement by the Examiner identifying which one of the seven rationales the Examiner is relying on and the proper analysis of that particular rationale, as required by the Guidelines*.

IV. Applicants' Claims are Patentable over the proposed Kennedy-Weber Combination

Applicants respectfully submit that Claims 1, 8, 15, 22 and 23 each contain unique and novel limitations that are not disclosed, taught, suggested, or even hinted at in *Kennedy and Weber*, either alone or in combination. Applicants further respectfully submit that Claims 1, 8, 15, 22 and

23 are not rendered obvious over the proposed combination of *Kennedy* and *Weber*, because, among other things, the filing date of *Weber* is after the priority date of the subject Application, that is, the priority date of the subject Application is *three months prior to the filing of Weber*, and therefore, *Weber is invalid as prior art over the subject Application.*

Applicants further respectfully submit that dependent claims 4-7, 11-14, 15-21, 25-29, 31-35, 37-41, and 43 are not rendered obvious over the proposed *Kennedy* and *Weber* combination and are also considered to be in condition for allowance for at least the reason of depending from allowable claims.

For at least the reasons set forth herein, Applicants respectfully submit that Claims 1, 4-8, 11-15, 18-23, 25-29, 31-35, 37-41, and 43 are not rendered obvious by the proposed combination of *Kennedy* and *Weber*. Applicants further respectfully submit that Claims 1, 4-8, 11-15, 18-23, 25-29, 31-35, 37-41, and 43 are in condition for allowance. Thus, Applicants respectfully request that the rejection of Claims 1, 4-8, 11-15, 18-23, 25-29, 31-35, 37-41, and 43 under 35 U.S.C. § 103(a) be reconsidered and that Claims 1, 4-8, 11-15, 18-23, 25-29, 31-35, 37-41, and 43 be allowed.

CONCLUSION:

In view of the foregoing amendments and remarks, this application is considered to be in condition for allowance, and early reconsideration and a Notice of Allowance are earnestly solicited.

A Request for Continued Examination (RCE) is being filed electronically herewith to facilitate the processing of this deposit account authorization. **The Director is hereby authorized to charge the \$810.00 RCE fee to Deposit Account No. 500777.** Although the Applicant believes no additional fees are deemed to be necessary; the undersigned hereby authorizes the Director to charge any additional fees which may be required, or credit any overpayments, to **Deposit Account No. 500777**. If an extension of time is necessary for allowing this Response to be timely filed, this document is to be construed as also constituting a Petition for Extension of Time Under 37 C.F.R. § 1.136(a) to the extent necessary. Any fee required for such Petition for Extension of Time should be charged to **Deposit Account No. 500777**.

Please link this application to Customer No. 53184 so that its status may be checked via the PAIR System.

Respectfully submitted,

24 June 2009
Date

/Steven J. Laureanti/signed
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